

# Smart Trolley for Billing in Super Market using AOT

Poovarasana. P<sup>1</sup>, Rishi Vishvaa. N<sup>1</sup>, Siva Kumar. D<sup>1</sup>, Mr. D. Satheesh Kumar<sup>2</sup>

<sup>2</sup>Guide, <sup>1,2</sup>Paavai College of Engineering, Namakkal, Tamil Nadu, India

## ABSTRACT

These days, shopping has become a significant job in our economic activity. Fundamentally, Innovation in innovation is pointed towards making everyday existence of individuals simpler and quicker. The paper presents a smart trolley that is of extraordinary use for shopping at the supermarkets helping the challenges like holding up in huge lines at the payment counter, hauling the trolley all through the shopping time and figuring them the all-out cost of the things taken, subsequently giving the speediest shopping experience. This venture portrays how to construct a computerized and efficient framework for the universe of retail which will make shopping experience rash, client agreeable and secure. Along these lines, this has brought about huge groups at shopping centers which have prompted long queues at the charging counter in light of the fact that the clerk needs to examine each item thing and afterward enter it into the charging record. The overall charging framework is a piece tedious.

**KEYWORDS:** Smart trolley, Bluetooth, AOT

## INTRODUCTION

People have consistently designed and built up an innovation to help their needs as far back as the start of people. The basic motivation behind headway in innovation has been in limiting assignments and making regular errands simpler and faster, paying little mind to the various areas reachable. A critical undertaking on that individual's territory unit discovered investing a generous amount of energy is shopping. As per a review, pretty much the vast majority of the people pay 1.5 hours day by day on shopping. numerous buyers can constantly will in general come up short on a line if the line is amazingly long. this shopping climate will just be characterized into 2 classes (1) shopping face to face and (2) shopping in absentia. shopping in-absentia is bolstered from multiple points of view just as web based shopping, teleshopping, and so forth any place during a customer or a customer doesn't get the opportunity to be available physically inside the shopping field. shopping face to face includes a private visit of a person to the shopping centers or focuses and picking the item/s upheld the different factors just as need, style, comfort, brand, and so on. As of late a profound auxiliary alteration has happened, with results of financial procedure and society, especially in factors like regional occupation, urbanization, receptiveness to Global markets, demography, family structures, and social and exceptional examples. Advancement in correspondence and information advances has caused an upset in qualities, information, and impression of on the whole territories. This area is nowadays remarkably essential in an overall economy, with its ongoing development in mechanical, political, social and monetary terms making it one of the principal advantageous and

various organizations over the world. The difficulties and openings made by the electronic business have caused the sharing of information between colleagues to improve operational execution, customer administration and arrangement advancement.

## Literature review

**Satish Kamble, Sachin Meshram, Rahul Thokal, Roshan Gakre, "Developing a Multitasking Shopping Trolley Based On RFID Technology"**

While doing survey we found that people leave shopping mall as they have to wait in a queue so long to pay at the billing counter. For solving this problem RFID tags are used. This paper presents a few application that are possible using RFID technology such as locating lost items, tracking moving objects, etc.

**Mr. P. Chandrasekar, MsT. Sangeetha "Smart Shopping Cart with Automatic Billing System through RFID and ZigBee"**

Supermarket is a place where people come to purchase their daily using products and pay for that. So there is a need to calculate the total products and total amount. Here we use RFID tags to decrease the time and reduce labour costs by shifting to self-service. Also use Zigbee technology which is low data rate, low cost, low power consumption technology.

**T. Shanmugapriyan "Smart Cart to Recognize Objects Based on User Intention"**

Shopping in the real world involves both real world objects and smart objects. Products placements & exposure is

**How to cite this paper:** Poovarasana. P | Rishi Vishvaa. N | Siva Kumar. D | Mr. D. Satheesh Kumar "Smart Trolley for Billing in Super Market using AOT" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-4 | Issue-3, April 2020, pp.92-95, URL: [www.ijtsrd.com/papers/ijtsrd30167.pdf](http://www.ijtsrd.com/papers/ijtsrd30167.pdf)



IJTSRD30167

Copyright © 2020 by author(s) and International Journal of Trend in Scientific Research and Development Journal. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) (<http://creativecommons.org/licenses/by/4.0>)



important for supermarket shopping what product stores shows on display. In this paper, they used sensors for their trolley and also wireless communication to communicate & Barcode Scanner for scanning the barcode on the product and will display the price of the product.

### S. Sainath, K. Surender, V. Vikram Arvind "Automated Shopping Trolley for Super Market Billing System"

Nowadays in every supermarkets and hypermarkets employ shopping trolley or baskets to store products which customers intend to purchase. The automated shopping trolley which includes Raspberry Pi embedded chip with barcode scanner and a battery kit for customer to self-checkout at mall.

### Proposed System

This Automated shopping trolley makes note of all the checked items of the specific trolley with distribution numbers and is connected with the supermarket's backend database which contains subtleties of the item, for example,

### Micro-controller

A microcontroller is a computer control system on a single chip. It has many electronic circuits built into it, which can decode written instructions and convert them to electrical signals. The microcontroller will then step through these instructions and execute them one by one. As an example of this a microcontroller we can use it to controller the lighting of a street by using the exact procedures. Microcontrollers are now changing electronic designs. Instead of hardwiring a number of logic gates together to perform some function we now use instructions to wire the gates electronically. The list of these instructions given to the microcontroller is called a program. There are different types of microcontroller, this work focus only on the PIC16F877A Microcontroller where it's pins as shown in below Figure.

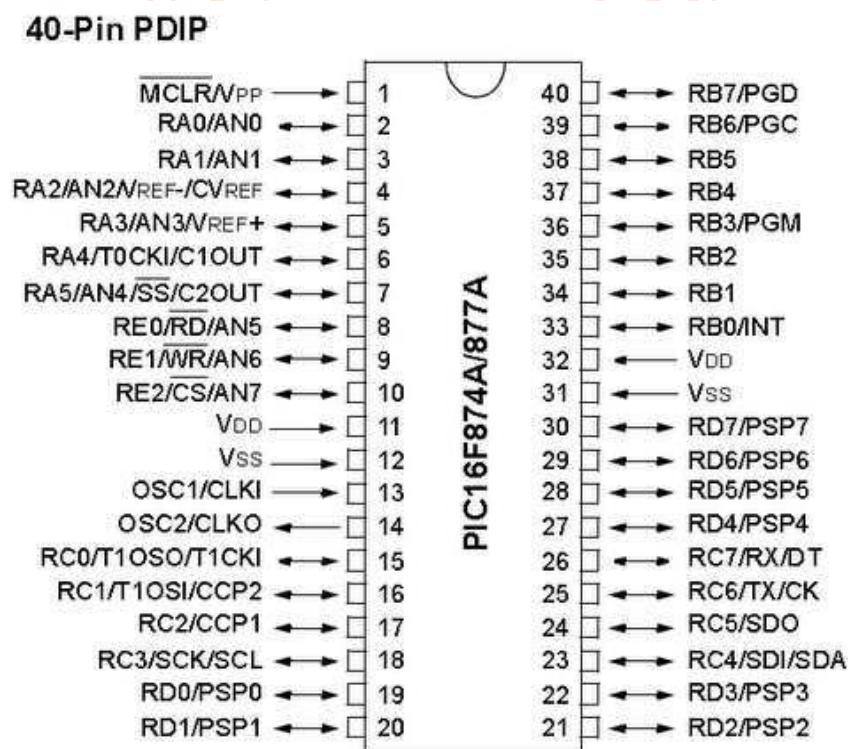


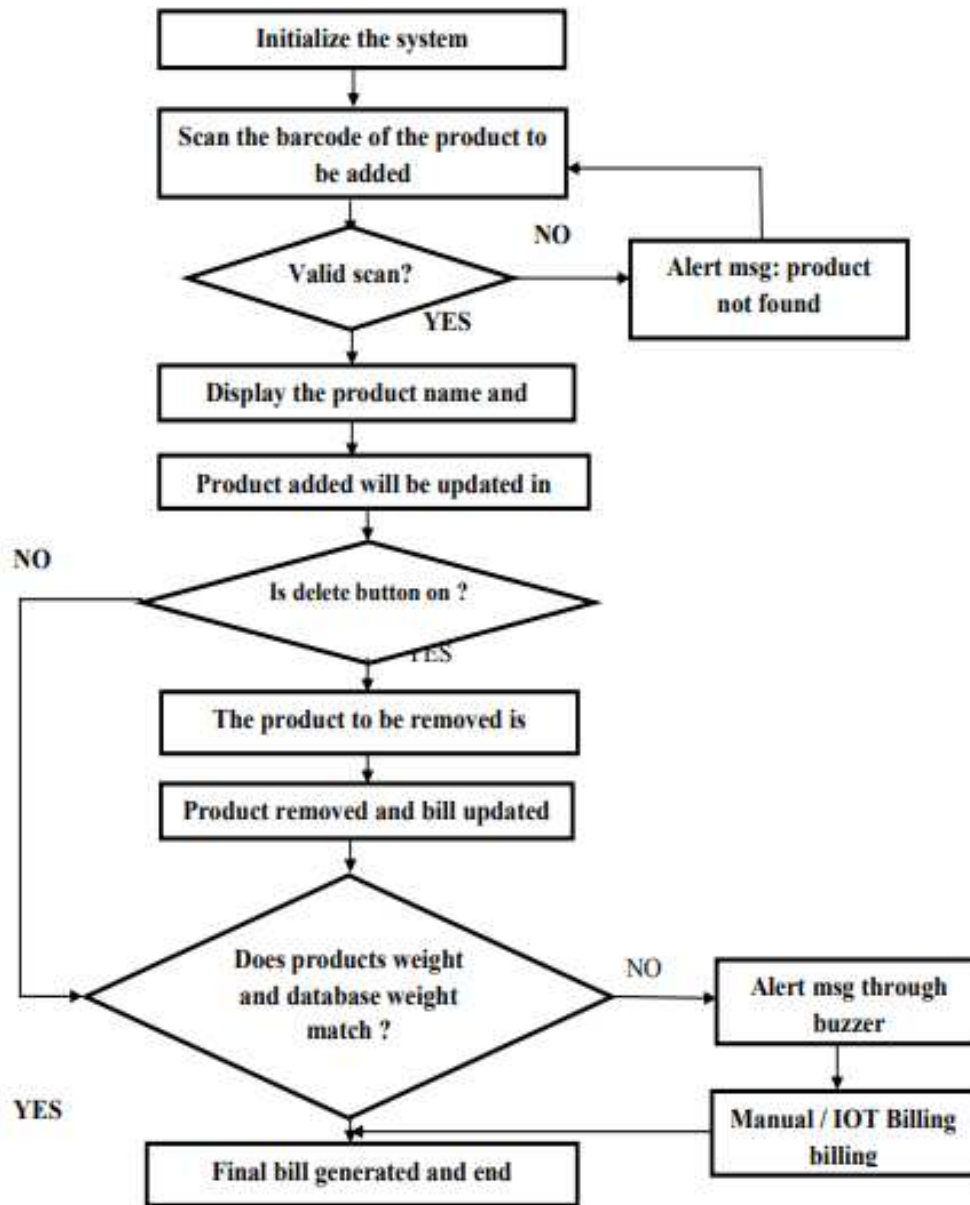
Figure1. Pin diagram

### Bluetooth

HC05 Bluetooth is an easy to use Bluetooth SPP (Serial Port Protocol) module, designed for transparent wireless serial connection setup. Bluetooth is connected with smart cart. It transmits the data to the smart cart which entered into the mobile phone. The cart responds to the received data and moves to the corresponding product location.

### Buzzer

A buzzer is an audio signalling device, which may be mechanical electro-mechanical, or piezoelectric (Piezo for short). Typical uses of buzzers and beepers include alarm devices, timers.

**Flow Chart****Figure2. Flow Chart**

In Trolley, there are two motors fixed and the Bluetooth is also connected with trolley. The trolley receives the data from smart phones. Bluetooth sends the data to the motor drive. The motor driver sends the signal to the motor 1 and 2 fixed in the wheels.

Case 1: if data==0

The trolley moves forward in short distance and turns right.

Case 2: if data==1

The trolley moves forward in short distance and turns left.

Case 3: if data==2

The trolley moves backward in long distance and turns right.

Case 4: if data==3

Left

**Conclusion**

In this paper, the fruitful utilization of the Microcontroller for the smart shopping trolley has been clarified. The downsides tended to in past shopping trolley applications which were defeated in this application. Undertaking Implementation will assist all with peopling who are shopping in the supermarket and face the issue of remaining in a long line for definite charging. The execution is simple, practical and will decrease the time required at the charging counter. In our venture, we planned an automated shopping trolley for the charging framework, which can be utilized in any supermarket and by any individual effectively. The

Smart Trolley was intended to work as a self-checkout framework furnishing clients with the adaptability to make exchanges from it inside the retail location. It is intended to be profoundly proficient and completely synchronized with the retailer's present framework.

**References**

- [1] Mr. P. Chandrasekar and Ms. T. Sangeetha "Smart Shopping Cart with Automatic Billing System through RFID and Transmitter and Receiver", IEEE, 2014.

- [2] Ms. Vrinda, Niharika, "Novel Model for Automating Purchases using Intelligent Cart," e-ISSN: 2278-0661, pISSN: 2278-8727 Volume 16, Issue 1, Ver. VII (Feb. 2014), PP 23-30.
- [3] Ms. Rupali Sawant, Kripa Krishnan, Shweta Bhokre, Priyanka Bhosale "The RFID Based Smart Shopping Cart", International Journal of Engineering Research and General Science Volume 3, Issue 2 pp 275-280, March-April, 2015.
- [4] Kalyani Dawkhar, Shraddha Dhomase, Samruddhi Mahabaleshwarkar "Electronic Shopping Cart For Effective Shopping based on RFID", International Journal of Innovative Research In Electrical, Electronic, Instrumentation And Control Engineering Vol. 3, Issue 1 pp 84-86, January.
- [5] Zeeshan Ali, Reena Sonkusare, "RFID Based Smart Shopping and Billing", International Journal of Advanced Research in Computer and Communication Engineering, Vol. 2, Issue 12, December 2013.
- [6] Dhavale Shraddha D, Dhokane Trupti J, Shinde Priyanka S, IOT Based Intelligent Trolley for Shopping Mall, IJEDR, 2016.
- [7] Sainath S, Surender K, Vikram Arvind V, Thangakumar J, Automated Shopping Trolley for Super Market Billing System, International Conference on Communication, Computing and Information Technology, 2014.

